25 June 1951

Dear Dave:

Thank you very much for your thoughtfulness in sending a copy of the address, "Living in a Scientific Age", which you delivered on the occasion of the National Convention of the Catholic Theatre Conference at Mundelein College.

I have read this most informative speech with interest and know that it was well received and appreciated by your audience.

With kindest personal regards.

Faithfully,

/s/ Bedell

Brig. General David Sarnoff
Chairman of the Board
Radio Corporation of America
New York, N. Y.

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LIVING IN A SCIENTIFIC AGE

by

DAVID SARNOFF

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LIVING IN A SCIENTIFIC AGE

BY DAVID SARNOFF
CHAIRMAN OF THE BOARD
RADIO CORPORATION OF AMERICA

ADDRESS AT
CATHOLIC THEATRE CONFERENCE, MUNDELEIN COLLEGE
CHICAGO, ILL.
JUNE 13, 1951

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LIVING IN A SCIENTIFIC AGE

It is a great privilege for me to be present today at Mundelein College and to participate in this National Convention of the Catholic Theatre Conference. I was particularly pleased that your invitation was conveyed through my good friend and associate, Frank Folsom, the able President of RCA. His enthusiastic interest in the Conference impressed me all the more with its importance.

Until a few days ago I had doubts whether I could be in Chicago today, as I sail for Europe on Friday morning. When I expressed these doubts to Sister Jeanelle, they were delightfully dispelled by her persuasive eloquence. So, here I am.

Perhaps the title I selected for my talk—*Living In A Scientific Age*—sounds a little remote from the subject of your meeting. But in the broadest sense, science and the theatre have much in common, for both play important roles in modern life.

These are strange and troubled times. We are living in a world of conflicting ideas. The spiritual values to which we have always been devoted are under attack. Our basic ideals remain the same, but they are being subjected to a serious challenge, and man's relationship to man is in dire need of adjustment.

We are clear about the ideals that we know to be true, but we are confused as to the means of attaining them.

One of the reasons for this confusion is the fact that we live in a scientific age Since the turn of the century, especially under the impetus of electricity and electronics, we have marveled at many new inventions. And

with each new invention, our emotions are mixed with fear and hope as we watch its application for good or evil.

In the short years of our lifetime, scientific growth has been so great that it has far outstripped man's wisdom for using the products of science only for the good of mankind.

We have been able to reduce time and distance. We live within the confines of a more intimate world than our ancestors ever knew. A radio message encircles the globe in a split second. An airplane crosses the ocean between sunrise and sunset. The old frontiers have faded. In a very real sense we have brought mankind closer together. But in another sense, much of this scientific advance has been used to pit us against each other.

We must recognize that there are people in the world, who would use the products of science to enslave and mislead and destroy their fellow men. This is a problem with which man has coped for centuries. Today, the problem is greater than ever because the enemies of peace on earth have more powerful weapons to work with. But if we recognize this threat to peace and our well being, all that science has given us can be used as potent tools to preserve and improve our civilization. We must learn to live together in harmony if there is to be peace on earth and good will among men.

This is a battle for men's minds. If we are to win this struggle, we must convince people that the ideals which have guided man along the road of progress are the ones to which he must remain devoted. We face the problem of beating the big lie with the big truth. Fortunately, religion, science and the arts have given us the means with which to do the job.

There are two factors that play major roles in shaping any man's beliefs. First, there are the precepts developed by our spiritual and educational leaders. These are the ideals I have been talking about. Second, there are the means by which these precepts are communicated to men and women everywhere.

For centuries, one of the most effective art forms in the dissemination of ideas has been the theatre. From the earliest times, man has acquired many of his beliefs from dramatic presentations. He went to be entertained, but at the same time, he learned.

I think it is especially appropriate and significant, in the light of current conditions, that the association of religion and the theatre should be the basis of your Conference.

For the theatre has its roots deep in religion. As in other art forms, the early development of the modern theatre, and much of its inspiration, came from the Catholic Church. Any student of English drama knows that the modern theatre had its origin in the religious pageants, or "morality plays" of the Middle Ages. I believe that the first recorded dramatic performance in England was an Easter pageant, which took the form of responsive reading.

But I think even more important than the historical association of the church with the theatre is this basic common denominator—both are essentially concerned with broadcasting an idea. I must confess that in many cases, the ideas expounded by particular theatrical performances have little, if any, spiritual value. But there is a basic kinship between the church as the expounder of the truth, and the theatre which seeks to reflect the truth.

The effectiveness of the theatre in bringing to men things of the mind and the spirit, has been limited, down through the years, by a number of factors. It has been hampered at times by the lack of vision of some of the people in charge of theatrical productions. They have apparently felt that the sole purpose of the theatre was to entertain. They failed to see, that while entertaining, they also had the opportunity to inform.

Here, as with the products of science, we are concerned with the use to which the medium is put. Like radio and television, the theatre has potentialities for good and for bad. We have seen in totalitarian countries how it can be used as an instrument of propaganda to misinform and mislead the public. On the other hand, we have seen outstanding examples of how it can lead the public toward the truth.

Another limitation upon the theatre's service to mankind has been physical. The facilities for doing an effective mass job have not been available. There were not enough people with enough money to stage enough shows. There were not enough theatres to hold all the people who wanted to see these shows. Witness the year-long waiting list for seats at Broadway hits like "South Pacific" or "Call Me Madam". And the presentations themselves have suffered from the fact that the dramatist had to confine the action within the three walls of the stage. Ever since the dawn of the theatre, people interested in it have been trying to solve these problems.

But science has overcome these limitations. For in the past few years the development of television has given the theatre a stage as big as the world and a theatre that now holds an audience of some thirteen

million American families. Moreover, the best performances can reach millions of people to whom the theatre is not available.

Television opens the door to entirely new types of theatrical performances. It offers new horizons to the dramatist. No longer need he be bounded by the physical limitations of the theatre. He has a new and a wide audience to which he can address himself in new ways. The dramatic unities of "Time and Place" specified by Aristotle no longer prevail. The identification of the play with the individual in his home provides a type of audience participation that Shakespeare possibly imagined when he said: "All the world's a stage and all the men and women merely players."

And now we have the prospect of color, so that all the beauty of set and costume will, one day, be enjoyed by television's vast audience.

You have undoubtedly heard many confusing statements regarding the immediate outlook for color television. Perhaps I can clear up some of this confusion and give you a little better idea of just where we stand.

From the earliest days of television, it has been recognized that color telecasting was scientifically possible. But it was also obvious that the development of color presented many technical problems that do not apply to black-and-white television. Our many years of scientific research on color television at RCA, have convinced us that the public can be furnished, and is entitled to have, a practical system that gives good color pictures and that operates on the same standards as existing black-and-white television.

We have maintained that to achieve these purposes a color television system should be all-electronic, and

that above all else, it must be compatible with black-and-white television. By compatible, I mean that color pictures should be broadcast in such a way that the public can receive them in black-and-white on the sets they now own. We have insisted that the public should be given the opportunity to do this without having to buy and install expensive adapters or other contraptions.

The reasons for all this are obvious. In the first place, the public has a big investment in television sets. There are now about thirteen million of them in American homes, and by the end of the year, there will be at least fifteen million sets in use. It certainly is unfair to the public to urge an incompatible system that would force present set owners to spend a lot of money to adapt their sets in order to get any picture at all from color television.

In the second place, a compatible system would encourage the immediate introduction of color programs and the rapid development of this new technique. Neither television stations nor advertising sponsors can afford to put on programs for a non-existent audience. But if you have a system that will permit you to broadcast in color without losing a single person in your existing audience — because they can still receive the pictures in black-and-white — this problem is automatically solved. And we have developed such a system. In other words, the people who want to see the pictures in color can buy color sets, and the people who want to use their present sets can still use them — without any change whatever — to see the color programs in black-and-white.

It was this thinking — which is shared by the best scientific minds of the television industry — that guided

RCA in the development of its own all-electronic compatible color television system. Unfortunately, the Federal Communications Commission has not seen fit to give us the green light on this system. But we hope and believe that eventually they will. In the meantime, we are planning public demonstrations of compatible color telecasts so that the public can see the kind of color television programs they can have if the FCC's approval is finally granted.

But regardless of when that approval may come, black-and-white broadcasts will remain the backbone of the television industry for a number of years to come. It is one thing to produce color equipment in the laboratory and another thing to be able to make it available in sufficient quantity and uniform quality, at a price within the reach of the average buyer. Engineers must design the equipment for home use, factories must be tooled up for mass production, and new techniques must be perfected for broadcasting color programs satisfactorily. All of this, and public acceptance too, do not come overnight.

We have a parallel in the motion picture industry. Color films have been made for many years, and yet most of the movies are still in monochrome. So, while color television is sure to come, we must not lose sight of the fact that there is still much work to be done to bring it even to the present state of black-and-white television. And there is still room for improvement in present television.

As a matter of fact, the dramatic techniques of the television art, have only begun to be developed. In such a rapidly growing industry, the pressure of day-to-day activity is so great that there has been too little time to sit and think and devise the most effective means of

fitting the performance to the medium. All that will have to come with time, with trial and error, with the development of audience tests and suitable standards.

Here again we have a parallel situation in the motion picture business. You will recall that when sound movies first appeared, practically all the talking pictures produced were simply celluloid versions of stage plays, with drawing-room comedies especially popular. There was a set, the characters walked in and out of the picture, and all the action was in the dialogue. So avid was the appetite for sound pictures that these filmed stage presentations were both successful and profitable.

But when the novelty wore off, the movie audience became more critical, more discriminating. Suddenly, the motion picture industry woke up to the fact that it had become static — that it had lost its greatest asset, the one thing it had that the so-called "legitimate" stage lacked — Mobility. So they stopped trying to imitate the stage and developed their own techniques particularly suited to their own medium.

We know that the same thing will happen with television. For here we have a degree of mobility unapproached, even by the motion picture.

At our laboratories in Princeton, we have developed a small portable television camera that can be taken quickly and easily to any place of immediate interest. Already we are developing the techniques for smooth coordination of many cameras in many places.

We might cite as one example the Camel News Caravan, which most of you have undoubtedly seen on NBC stations. John Cameron Swayze talks to you in your living room about the day's happenings, and as he talks he moves your view from place to place. Yet, the transition and continuity are smooth and logical.

There will be rapid improvement in these techniques, and these, in turn, will inspire creation of new art forms. I visualize television presentations that will not be merely re-broadcasts of stage plays, but will be productions especially designed to utilize the great mobility of this new medium.

We already have a notable example in the field of opera. Opera audiences have been limited even more than theatre audiences, for there are only a few opera houses in the larger cities of our country. In the past two seasons, however, NBC has brought many operas into American homes by television. These operatic masterpieces were specially produced to express the potentialities of television and were sung in the English language.

These are only a few of the effects television can have on all forms of theatrical presentations. We foresee greatly increased use of lighting and camera techniques for dramatic effect. For, through this new medium of television, the entire production—actors and props and sets alike—is reduced to electrons, and science has conquered the electron.

So you can see the great new scope that television offers the theatre. But this whole relationship is not one-sided by any means. For while television offers the theatre great new opportunities, the theatre, in turn, can make great contributions to the progress of television.

One of these contributions can be in the field of education through television — a field about which I am sure you have heard a great deal. And, of course, when we speak of education, we mean the teachings of the church as well as those of the school.

Religion certainly has a legitimate place on the airwaves as well as on the stage. The Catholic Church was among the first to advance the use of radio broadcasting for spreading its religious services to a nationwide audience. The Catholic Hour, broadcast weekly over the facilities of the NBC network and its affiliated stations, is now in its twenty-first year. These programs have brought inspiration, comfort and solace to countless millions of people; especially to those who for physical reasons beyond their control are unable to go to church. We look forward to the effective use of television as a means of spiritual education.

I am happy to see the degree to which many educators recognize the new opportunity which television offers them. The recent action of the Board of Regents of New York State in petitioning the Federal Communications Commission for channels for an eleven-station television network across the Empire State, is significant. In this plan the Board of Regents sees a means "to reach and make more uniform the standards of education in the State by extending to all scattered rural communities in it the educational and cultural benefits now available only in the most populous metropolitan areas". Colleges, universities, medical schools, museums and libraries are foreseen as television "classrooms".

The theatre can help television to realize its great potentialities as an educational force. Anyone who has been in a church knows that there is more to a sermon than the simple presentation of spiritual truths. Anyone who has ever been in a classroom knows that there is more to education than the simple recitation of a series of facts. They must be presented in interesting form. That is why students enjoy one teacher, or one

class, and do not enjoy another. All of us know that students learn best when their interest is captured and held.

We will not be utilizing the educational possibilities of television to the maximum if we do no more than make television time available to educators. The greatest collection of truths miss their target if they are not heard or seen. This is particularly true in the field of adult education. In the classroom, the students at least have to sit there, regardless of how dry the teacher's lecture may be. But no one in his home has to listen to the radio or watch anything on television. He can turn to another station, or turn off his set completely, the minute it fails to hold his interest.

I offer radio as a parallel. When radio broadcasting began, almost anyone willing to talk could get on the air. We started off with people making speeches. Then we found that the audience for these speeches was limited. So, we tried to develop new techniques — forums, debates, interviews — all designed to make the subject interesting as well as informative. This greatly increased the radio audience.

Already we are having some experience along these lines in television. You have probably watched programs like, Mrs. Roosevelt Meets the Public, Meet the Press — and others. Perhaps you have also observed scientific programs on the air which have departed from the straight lecture technique. They are built around demonstration and action, by shifting the camera from one scene to another.

The scripts for all these educational presentations should be just as carefully prepared with the interest of the audience in mind as the script for any dramatic presentation on the stage of a theatre.

If the full potentialities of educational television are to be realized, we must use not only the know-how and experience of those who operate television stations and build their programs, but also the knowledge and experience of people of the theatre. They can certainly help to make educational material dramatic, interesting, entertaining and effective.

Now, these are only a few examples of the ways in which the talents and resources of the theatre and television can be blended for greatly expanded and improved public service. The influence on the human mind, heart and spirit of this new medium of mass communication, combined with the arts, stirs our imagination. Its capacity for serving the best interests of mankind, especially in these years of crisis is very great, indeed.

Today, the word "peace" is on every man's lips and yet it is so very difficult to attain. There is no easy solution to this problem. But we must realize that if we are to have real peace, we must bring all men closer to each other mentally and spiritually, much as modern science, by shrinking time and distance, has brought nations closer to each other physically.

Many of us who witnessed on television the United Nations' debates, the Kefauver hearings and General MacArthur's address to Congress, saw its power to stir public interest and to create an informed public opinion. Only an informed people can remain a free people, and only through free people can civilization continue to advance.

Those of us engaged in efforts to convey ideas, have an opportunity to render a great service to all mankind. We must strive to preserve our ideals, to clarify our message, and to deliver it effectively. The Church, the

Arts, and all the media of mass communications that science has provided, can cooperate in this Divine mission.

"Living In A Scientific Age" is a wonderful adventure. While man faces great perils, he faces — at the same time — thrilling opportunities.

The possibilities of science offer man the opportunity to seek a finer destiny. What he needs most is the faith in spiritual guidance that will lead him to apply his new knowledge and techniques to peaceful pursuits. The hope of peace that is lasting and a world that is free, lies within the soul, the heart, and the mind of man.

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